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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/636,051 | 08/07/2003 | Peter J. Schiller | 11812/US/2 | 1024 |

7590 02/01/2005
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| EXAMINER |
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BUDD, MARK OSBORNE

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| ART UNIT | PAPER NUMBER |
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2834

DATE MAILED: 02/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H11

Office Action Summary

Applicati n N .

10/636,051

Applicant(s)

SCHILLER, PETER J.

Examiner

Mark Budd

Art Unit

2834

-- The MAILING DATE f this communication appears on the cover sheet with the c rresp ndence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2-19-04</u> . | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 2834

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no written description or illustration of any structure wherein a proof mass is suspended from a support frame via any of a tuning fork, cup or comb structure. Further, it is unclear how such structures could be integrated as suspension elements for a proof mass.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-4, 6, 7, 9, 10, 14-16, 18 and 23 are rejected under 35 U.S.C. 102(a) as being anticipated by Okada (318).

Okada, especially figs. 22-27, 38-41 and 45 all teach multiple (at least three) thin film piezo elements provided on a substrate to both drive and detect acceleration of the device upon which they are mounted. The body can be made by micro machining or solid state technologies from a single piece of silicon (see col. 46, lines 25-28 and column 29 lines 57-60).

Art Unit: 2834

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada (318).

Okada teaches the structure of the accelerometer as noted above but does not explicitly teach any specific thickness for the piezoceramic layers. However, optimization of a known device for a particular application (e.g. thru routine experimentation) has long been held to be within the skill expected of the routineer. Thus arriving at specific thickness dimensions for Okada's piezo layer would have been obvious to one of ordinary skill in the art.

Claims 5, 17, 19-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada (318) in view of Tehon.

Okada teaches the accelerometer structure including general input/output circuitry but does not explicitly use any feedback loop. Tehon, however, (fig. 6) teaches using a feed back network including a phase shift to provide a stable oscillation and for automatically and properly adjusting the frequency (col. 8, line 67-col. 9 line 29). Thus, for at least these reasons it would have been obvious to one of ordinary skill in the art to provide Okada with the feedback drive taught by Tehon.

Further cited of interest are Schiller, Gutteridge, Okada (040), Howe, Hulsing and Fuji.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark O. Budd whose telephone number is (571)272-2019. The examiner can normally be reached on Monday-Thursday from 6am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R. Ramirez, can be reached on ***. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Budd/ds

01/28/05

MARK O. BUDD
MARY EXAMINER
JAN 28 2005